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Security implications of climate development in conflict-affected states implications of local-level effects of rural hydropower development on farmers in Herat

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A B S T R A C T

Development initiatives aimed at mitigating or adapting to climate change impacts may result in unanticipated effects especially in conflict-affected contexts. To improved understanding of the implications of future climate development projects in conflict-affected states, this article qualitatively examines the experiences of local communities in the Zinda Jan district, located downstream from the Salma Dam in Herat Province, Afghanistan. Conducted in 2018, the research questions what local-level side effects (LLSEs) were experienced by communities downstream of the Salma Dam after its 2016 inauguration, and how these LLSEs might affect the potential for sustainable peace. The article builds from 25 in-depth interviews with local stakeholders in the Zinda Jan district, and highlights how communities generally experienced increased water scarcity after the completion of the dam in 2016, due to poor water management and lack of necessary infrastructure related to the dam. This water scarcity was a factor in grievances related to water access among local communities, and increased the likelihood of related communal violence. However, local perspectives also indicate desire for joint management of water resources between the state and civilians, from the source to their farms. The article provides important insight for research and policy actors to better understand the implications of future climate development projects in conflict-affected states, and their inherent contribution and/or risk to broader peace processes.

1. Introduction

Successful peacebuilding in fragile and conflict-affected states stops violence and prevents relapses into conflict. It must also help societies and governments reset their internal relations on a path toward sustainable peace. Climate and environmental pressures are increasingly affecting societies, thus making climate adaptation efforts essential for wider peacebuilding. Climate development interventions may be detrimental to building peace within conflict-affected states also affected by climate change because the implementation and management of the projects may foster group marginalization by restricting access to resources (Moran et al., 2018). This dynamic can add additional grievances on top of existing issues directly related to the conflict. However, negligible attention has been given to understanding the security implications of climate development projects in conflict-affected states.

This paper aims to contribute to a better understanding of this gap by studying the implications that climate development projects have in the context of peacebuilding.[1] The paper investigates the inherent contribution of climate development projects and/or their risk to the broader peace process, by investigating: (1) the unanticipated local-level social, political, environmental and economic effects linked to the management of the Salma Dam project in Herat Province, Afghanistan, and (2) the repercussions of these effects on wider peacebuilding. The Salma Dam was chosen as a case study of a climate development project in Afghanistan for several reasons.

Afghanistan has tremendous development and climate adaptation needs. If unresolved, these will make building peace exponentially more difficult because of the adverse impacts of climate and environmental change (Krampe & Eklöw, 2019). Afghanistan signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, ratified it in September 2002, and officially submitted its initial national communication in 2013 (UNEP, 2015). In its first nationally determined contribution (NDC), submitted in November 2016, Afghanistan committed to a 13.6 percent reduction in greenhouse gas (GHG) emissions by 2030 (Islamic Republic of Afghanistan, 2015). The NDCs submitted to the UNFCCC work to benefit humans and the environment – and they promise "climate security" by limiting vulnerability to climate impacts (Barnett, 2007; Barnett & Adger, 2007; (Dabelko, 2013); Jernnäs & Linnér, 2019; Remling & Causevic, 2021). Some states have explicitly linked their climate mitigation and adaptation actions with

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[1] This paper defines climate development projects as projects that are as climate action oriented as they are development leaning.

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ongoing development interventions, particularly to poverty alleviation (Antwi-Agyei et al., 2018; Metz & Kok, 2008).

As major climate development projects linked to the 2016 NDC are still unrealized, we select the Salma Dam project as a proxy. The project represents both a mitigation and adaptation effort. In regard to mitigation, the hydropower resulting from the Salma Dam was recognized in the 2019 biennial update report under the UNFCCC by Afghanistan's National Environmental Protection Agency as a source of renewable energy (Islamic Republic of Afghanistan, 2019). In the NDC, an increase in energy production through hydropower projects, such as the Salma Dam, is considered an important measure for reduction of GHG emissions (Islamic Republic of Afghanistan, 2015). The project also works to generate hydropower to provide electricity for Herat (Mitra, 2016) helping to decarbonize Afghanistan's energy production. In addition, the project aims to provide extensive irrigation schemes throughout a region faced with water-shortages, thus supporting adaptation by building resilience of farmers and consequently helping to facilitate food security (ToloNews, 2016).[2] Indeed, in Afghanistan's National Adaptation Programme of Action for Climate Change (NAPA), projects including improved irrigation and water storage systems are included as priorities to reduce livelihood vulnerabilities to drought in rural communities (NEPA, 2009).

To understand the inherent contribution and/or risk of this project to the broader peace process, this paper traces the intersecting effects experienced by local communities after the dam's construction across several indicators (local-level side effects, LLSEs) and how these experiences have repercussions for state security and the peace process in Afghanistan. The paper shows how the conflict-affected context has an impact on how Afghanistan's political–economic system affects material and immaterial costs and benefits. The case study finds the impact of the flow regime due to improper management after the dam's inauguration in 2016 has affected local communities and in some cases affected the prospect for peace in downstream communities. This is because these effects in the conflict-affected context generate local inter-group inequalities, which foster grievances among groups and against state actors and also ignite instability. There is indication that the LLSEs on downstream communities in the Zinda Jan district of Herat Province have affected the prospects for peace and state-building, because they further complicate pre-existing distrust against the state and also international actors. Much of this takes place in the context of broader liberal peacebuilding efforts in Afghanistan and the inherent normative shortcomings and operative failures (Pugh, 2006). Nevertheless, the findings of this paper provide important insights into potential successes and failures of post-conflict policies and programs related to climate development projects.

The paper first provides a discussion on peacebuilding in Afghanistan after 2001. Then, an overview of the research design is provided. This is divided into an outline of the framework for conflict-sensitive peacebuilding, focusing on domestic factors that may drive or impede durable peace, and how it was operationalized with regard to 25 interviews conducted with local stakeholders in 2018. The methodology for data collection and the scope conditions for the research are discussed. Then, the specific water-related background of the country is examined, before concentrating on the Salma Dam project and the socioeconomic, sociopolitical, and socio-ecological effects experienced by communities downstream from the Salma Dam, with a focus on the Zinda Jan district. The findings and their impact on peace in Zinda Jan are then analyzed, followed by a discussion of the implications of this study.

2. Past intervention and peacebuilding in Afghanistan

Affected for decades by conflict, Afghanistan requires significant assistance in rebuilding crucial resources. Years of violence severely damaged the local economy, as well as the state's capacity to deliver key services (Rubin, 2006). However, the international interventions and peacebuilding efforts, theoretically aimed at establishing a liberal Afghan-owned state, generally failed to systematically and sustainably address the needs of Afghan citizens and rebuild state capacity (Suhrke, 2013). The actions of the international community – both through the UN system as well as bilateral development aid – in Afghanistan were generally top-down, conforming to donor-state priorities rather than the needs of the country they purported to help (Esser, 2013; Fluri, 2009).

A case in point is the Bonn conference, convened near Bonn, Germany, in December 2001 under United Nations (UN) leadership but with strong influence from the United States of America (USA), to discuss the future of Afghanistan (Suhrke, 2008). The USA's prioritization of the "War on Terror" has been argued to have influenced the Bonn talks, resulting in an agreement which was "an externally driven division of spoils among a hand-picked group of stakeholders who were on the right side of the War on Terror," rather than a peace agreement between belligerent actors (Goodhand & Sedra, 2010, p. S82; see also Suhrke, 2008). The annexes of the resulting Bonn Agreement requested the deployment of a UN-mandated force to Kabul to address security concerns, and described the role and function of the UN in the interim administration, which was mainly to monitor and assist in the implementation phase ("Agreement on Provisional Arrangements in Afghanistan," 2001).[3] The UN-mandated force, known as the International Security Assistance Force, was created to improve security conditions around Kabul, working to help facilitate the political and economic reconstruction process (Saikal, 2006; see also; Azarbaijani-Moghaddam et al., 2008). In 2002, "all the existing United Nations elements in Afghanistan" were integrated into the United Nations Assistance Mission in Afghanistan (UNAMA) (United Nations, 2002, p. 15). UNAMA's mandate was to assist in implementing the Bonn Agreement (Suhrke et al., 2002). The mission had a small budget and presence throughout the country (Saikal, 2012). While it was formed to aid in facilitating state building and security, UNAMA operated with a "light-footprint" approach. Reconstruction efforts were to be primarily coordinated among lead donor states and Afghan ministries. However, while this approach appeared to prioritize Afghan leadership, it contributed to a state-building process with numerous, uncoordinated, and often donor-influenced agendas (Ayub et al. p.9).

As the reconstruction continued, international involvement in policy and aid continued to be top-down, even when espousing the language of partnership. International involvement was removed from realities and long-term development needs on the ground, and failed to recognize uneven power relations among international and internal actors (Goodhand & Sedra, 2010; see also Ozdemir, 2019). International donors initially channeled finances through a trust fund managed by the United Nations Development Programme; however, few continued to do so after the first six months of Afghanistan's interim government. Instead, many donors preferred to disburse aid through their own mechanisms and processes, thus resulting in fragmented efforts and undermining the state's ability to consolidate legitimacy through service provision and resource mobilization (Rubin, 2006). The largest five bilateral donor countries during the reconstruction were the United States, Japan, the United Kingdom, Germany and India; India, for

[2] It should be noted that significant hydropower projects are viewed with concern due to the potential of adverse social and environmental impacts, including displacement and biodiversity loss (UNFCCC, 2018).

[3] This was later confirmed by the UN Secretary-General, who noted: "The overall objective of UNAMA should be to provide support for the implementation of the Bonn Agreement processes, including the stabilization of the emerging structures of the Afghan Interim Authority, while recognizing that the responsibility for the Agreement's implementation ultimately rests with the Afghans themselves" (United Nations, 2002, p. 16).

example, funded small and large-scale development projects, and channeled money both through the Trust Fund, as well as independently through the Afghan government (D'Souza, 2007).

International aid was often inappropriate and ineffective in the local contexts for which it was deployed. For example, donors moved towards focusing more resources on projects thought to be able to win 'hearts and minds' that were associated with counter-insurgency aims, rather than Afghan-owned initiatives (Goodhand & Sedra, 2010). The concept of "winning hearts and minds" (WHAM) was a notable part of western involvement in Afghanistan; it can be understood as "a way of conducting operations that will strengthen the perception of legitimacy for the host nation government, as well for the international community presence in the country" (Egnell, 2010, p. 292). It was an integral part of western counter-insurgency operations, and pursued the liberal ideologies of pursuing modernization as conceptualized by the West (Egnell, 2010; Ozdemir, 2019). While some indicate the comparative success of certain types of linked cash-transfer and vocational training programs in Afghanistan (Lyall et al., 2013) and other smaller initiatives in different contexts (Berman et al., 2013), the discourse around the hearts and minds approach could often be removed from priorities and realities of the people of Afghanistan (Azarbaijani-Moghaddam et al., 2008). Disjointed interventions arguably worked against the larger goal of state-building (Goodhand & Sedra, 2010).

Much of this can be attributed to the dominant liberal peacebuilding doctrine that influenced international intervention in Afghanistan after 2001 (Suhrke, 2007). Liberal peacebuilding emerged after the Cold War as the normative way for the international community to construct lasting peace. In theory, to achieve liberal peace, international actors would support post-conflict states in building strong democratic institutions and a capitalistic market economy (Newman, 2009; Paris, 2004). However, liberal peacebuilding interventions have been argued to prioritize the capitalistic interests of external actors; they could often be inappropriate and harmful for the contexts they operated in (Pugh, 2006).

The international peacebuilding agenda has since broadened from its focus on liberal ideologies; failures in the approach in Afghanistan arguably contributed to this (de Coning, 2018). Once a significant actor in liberal peacebuilding interventions, the UN has since shifted towards the concept of "Sustaining Peace." This concept recognizes the limitations of a template approach to peace, and focuses on "supporting the political and social capacities that sustain peace" (de Coning, 2018, p. 304). Issues of inclusivity and the environment became featured more prominently in UN peacebuilding efforts. The joint UN–World Bank *Pathways for Peace* report highlighted the impacts of environmental stressors on conflict, the need for inclusive approaches to conflict prevention, and the importance of addressing grievances related to exclusion (World Bank & United Nations, 2018). Inclusive peacebuilding approaches that respond and are accountable to the needs of local communities rather than donor states are crucial (Campbell, 2018).

If peacebuilding efforts are not inclusive, research finds that a failure to account for the agency of local actors can work against achieving sustainable peace, instead resulting in a "hybrid" peace that was sought by neither locals nor international actors (Mac Ginty, 2010; Mac Ginty & Richmond, 2013). Indeed, in Afghanistan, Barma argues that while UNAMA "played kingmaker, alternative loci of power to the center continue to thrive and threaten democratic consolidation" (Barma, 2006, p. 129). Actors working to sustain peace need to give careful consideration to group-level dynamics and the agency of local actors. Recent research on inequality and grievances in relation to civil war incentivizes focus on the intermediate (group-level) mechanisms (Cederman et al., 2013). Group inequalities may contribute to instability and conflict should people perceive a disparity between what they have and what they believe they deserve, especially in relation to what others in the same society are understood to have (Gurr, 1970; Stewart, 2000; Østby et al., 2009). Identity politics can further mobilize groups to address grievances related to social, political, cultural, or economic inequalities (Cederman et al., 2013; Stewart, 2008).

Against the backdrop of the broader liberal peacebuilding project in Afghanistan, this paper looks explicitly at the way that climate development projects in this context affect local actors, and aims to understand their interactions with and inherent contribution and/or risk to the broader peace process.

3. Research design

This study used a new approach for conflict-sensitive climate development that focused on the domestic drivers and inhibitors of durable peace (Swatuk & Wirkus, 2018). This approach looks to carefully delineate "between local-level side effects of climate action and negative effects reaching back to the state (through different pathways and at different levels)" (Swatuk et al., 2020, p. 1). While envisioned outside of the conflict context, we correspondingly adapted the delimitations of the original framework by specifically highlighting the conflict dynamics and the role of international peacebuilding actors in its operationalization. The framework provided a structure to trace and contextualize the emergence of unanticipated and unintended consequences of climate development interventions on the local community level. In addition, it allowed us to elaborate how these local consequences potentially result in compounding pre-existing negative perceptions about state actors as well as international peacebuilding actors, thereby affecting the peace process. By "state," we mean government actors taking decisions as representatives of the state; by "international peacebuilding actors" we mean actors in UN or other multilateral peace operations.

3.1. Operationalization

The approach consisted of three consecutive mechanisms of inquiry. These mechanisms can be understood similar to Hedström and Swedberg's typology of social mechanisms. Hedström and Swedberg's "macro–micro–macro" conceptualization of social change posits that change occurs on a macro scale due to actions of individuals, which were influenced by a different macro-scale event in the past. They put forth the idea of "macro–micro," "micro–micro," and "micro–macro" mechanisms. This typology works to describe how: macro-scale events can influence individuals (macro–micro), the actions of individuals can influence the behavior of others (micro–micro), and this collective action can lead to macro-scale impacts (micro–macro) (Hedström & Swedberg, 1998).

Drawing from this conceptualization, this case study used a three-step process, based on that of Swatuk et al. (2018) (see Fig. 1). First, this involved inquiry around the implementing of a project through state actors in a specific locality (macro–micro). Second, climate development programs and policies can result in potential and unexpected local-level social, political, environmental, and economic externalities (micro–micro), which we evaluated as LLSEs. We argue that the second-order effects stemming from these LLSEs have the potential to negatively feed back to the state actors as well as international peacebuilding actors (see e.g., Hedström & Swedberg, 1998). This is likely to occur on multiple political levels (e.g., local, regional, and national), at various geographic scales (e.g., watershed, forest, landscape, and ecosystem), with numerous impacts (e.g., political and economic instability, social unrest, and violence) (Swatuk et al., 2018). Third, because of these multilevel and scalar effects, we expected micro–macro effects, that is state-level effects that impact the prospects of sustainable climate development and the peacebuilding process at large (Swatuk et al., 2018). It is well noted that these state-level impacts on peacebuilding and security are not solely linked to a specific intervention, but are compounded by other external factors in an unstable and fragile setting dominated by a wider liberal peacebuilding discourse.

This study utilized indicators derived from literature on development, and peacebuilding to qualitatively measure the LLSEs and state-

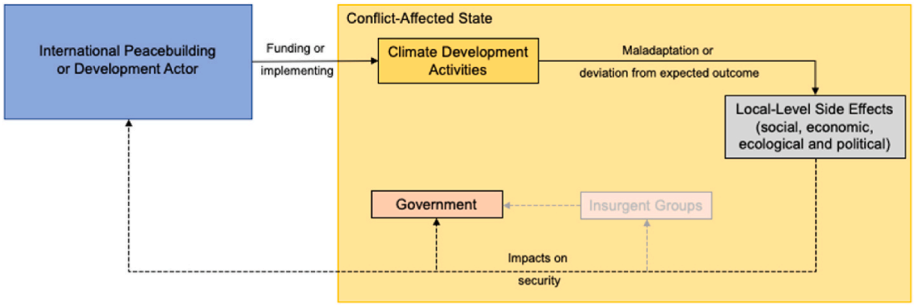

Fig. 1. Analytical approach for conflict-affected contexts, adapted from Swatuk et al. (2018).

level effects of implemented climate development programs and policies. It discerned empirically demonstrable and intersecting social, economic, ecological, and political impacts on local communities through 25 interviews conducted with local stakeholders in Zinda Jan district. Related questions in these interviews focus on performance of, trust in, and interaction with government actors and international peacebuilders (see also Krampe, 2016). Additionally, questions examined perceptions of other groups, as well as opinions on water access and specific local impacts experienced after the building of the Salma Dam. The indicators used in the analytical approach measure governance-level impacts resulting from a feedback loop generated by LLSEs. These indicators work to assess social, political, economic, and ecological dynamics, to evaluate potential threats to sustainable peace that emerge on the local scale. Annex 1 provides all questions used in the interviews and coded indicators used to determine LLSEs and state-level effects stemming from the climate development action.

3.2. Data collection

The empirical data for this study was collected over two cycles during the summer of 2018 in villages downstream from the Salma Dam in the Zinda Jan district of Herat Province. The aim was to study how the management of the Salma Dam project has affected the prospect for peace in downstream communities.

The Zinda Jan district covers 2096.41 km^2 and encompasses 82 villages (Islamic Republic of Afghanistan, 2018) with an estimated total population of 64,569 (Islamic Republic of Afghanistan, 2020). Semi-structured interviews were conducted in the center of the district (including Qala-e-Naw and other villages downstream), and in the Shakiban village (which includes a few small villages downstream). The demographic composition of the villages is not homogenous; residents of different ethnicities reside in the same locality.

When this study mentions water users from Zinda Jan, it refers to people living in the district center surrounding villages including Qala-e-Naw and villages downstream. Water users from Shakiban are people from Shakiban village and a few small villages downstream (see Fig. 5). The term "internally displaced people (IDPs)" generally refers to people identifying with one ethnic group, and moving to this district in groups of 20–50 families due to insecurity in their home districts. Zinda Jan, controlled by the Afghan Government, is comparatively more peaceful than surrounding districts, including the areas of origin of the IDPs.

This locality was selected as it is a large area downstream of the dam where the primary source of income for locals is agriculture (International Help Institute, 2018). The primary interviewees were local Mirabs[4] and farmers. Mirabs were selected because their views may be considered as being representative of all local stakeholders due to their position of traditionally elected mediators of water management and related disputes over access (Thomas & Ahmad, 2009). As local liaisons with the government, they also understand the relevant dynamics between local communities and the state surrounding water access. Farmers were interviewed to gain further perspective on local opinions related to water access. Additional interviews with religious elites (interviewed because they are trusted community representatives) and regional experts were conducted to better understand the national and local processes. These interviews were supported by field observations. Given the security context in these communities, 25 interviews were conducted. Seven interviews were conducted in the Shakiban village, while the other interviews represent opinions from other villages in Zinda Jan. The Annex 1 details a list of anonymized interviewees and the questions asked; these questions were guided by the operationalization of the approach, discussed above. Consent was verbally obtained from all interviewees, and all interviews were recorded and transcribed.

3.3. Scope definition

Delimitation and clarification of the scope of the study are necessary. First, this study focuses on climate development and its links to and interactions with conflict and peacebuilding. We contextualize this focus within an understanding of how the specific dynamics of a conflict-affected state can impact the effects of a climate development project. This is represented by the encompassing yellow box in Fig. 1. The guiding question is how the management of the Salma Dam project has affected communities and by extension the prospect for peace in downstream communities. We focus on this to gain a better understanding of the implications of forthcoming climate development projects in conflict-affected states and understand their inherent contribution and/or risk to the broader peace process. We are concerned with interactions in both directions as we anticipate climate development can interfere with conflict dynamics, but moreover that conflict dynamics can interfere with climate development. The same is true in relation to peacebuilding.

Second, we are placing the relationship between society and the state, and how this links with actions of international peacebuilders, at the center of the approach. This corresponds with an understanding of peacebuilding as rooted in the relationship between politics, namely the state in particular, and wider society (Migdal, 2001). The perceived legitimacy of the relationship between the domestic state and society constitutes the foundation of the social and political postwar order (Krampe, 2016; Richmond & Mac Ginty, 2020; Themnér & Ohlson, 2014). The various interactions between domestic state and nonstate actors are shaping post-conflict peacebuilding. In the context of international peacebuilding interventions, such as in Bosnia and Herzegovina, East Timor, and Kosovo, the domestic relationship between the state and society is shaped by the relational dynamics among different domestic and international actors (Krampe & Ekman, 2020; Mac Ginty, 2010).

[4] A Mirab is "typically a community leader or elder elected by local farmers to manage operation of the irrigation system and control water distribution according to agreed arrangements" (UNAMA Rule of Law Unit, 2016, p. 4).

4. Water security and implementation of the Salma Dam project (macro–micro)

Geographically imbalanced water discharge and its considerable seasonal variation affect irrigation in Afghanistan. Afghanistan has five major river basins (Fig. 2). Due to snowmelt from the Hindukush mountains, two of the basins – Amu Darya and Kabul – account for 83 percent of the country's mean annual water discharge. In addition, Afghanistan's rivers are often inundated in the spring due to heavy rain and snowmelt. River discharge is at its lowest during the summer, posing challenges for irrigation due to high water requirements during this season (Favre & Kamal, 2004). The impacts of climate change – notably, drought – further challenge consistent access to water resources (Iqbal et al., 2018). Between 1960 and 2008, average annual temperatures in Afghanistan increased by 0.6 °C (World Bank, 2020). The frequency of drought cycles has notably increased in recent years (World Bank, 2020), with a severe drought in 2017/2018 (FAO, 2019).

Consequently, appropriate and formal irrigation infrastructure is highly important, but unfortunately minimal, in Afghanistan. According to a water expert at the Food and Agriculture Organization of the United Nations (FAO), Afghanistan has only 10 percent formally irrigated agricultural areas.[5] External actors have supported various water sector infrastructure projects (Favre & Kamal, 2004). However, this support contributed to negative social, political, and economic ramifications. Programming in the 20th century prompted the resettlement of farm families, negatively affecting farmer tribal and ethnic networks (Scott, 1980). Increasing commercialization of agriculture in the 20th century further contributed to inequalities that eventually fed into the counter revolution against the Soviet occupation (Gibbs, 1986).

The Salma Dam in Herat Province (see Fig. 3), which was funded by the Government of India, is the only major water infrastructure built in Afghanistan since modernization projects in the middle of the 20th century.[6] The decades of conflict in the country stagnated dam construction and maintenance of water sector infrastructure (Ahlers et al., 2014). While the Salma dam was initiated in 1976, progress on its construction was halted due to conflict (Ahlers et al., 2014; Nagheeby et al., 2019). In 2004 India decided to fund the construction of the dam, which would later be known as the Afghan-India Friendship Dam (Mullen & Arora, 2016). The Salma Dam was inaugurated in 2016 at a cost of approximately US$290 million (United Nations Security Council, 2017). The dam opened in June 2016 in a joint ceremony with Indian

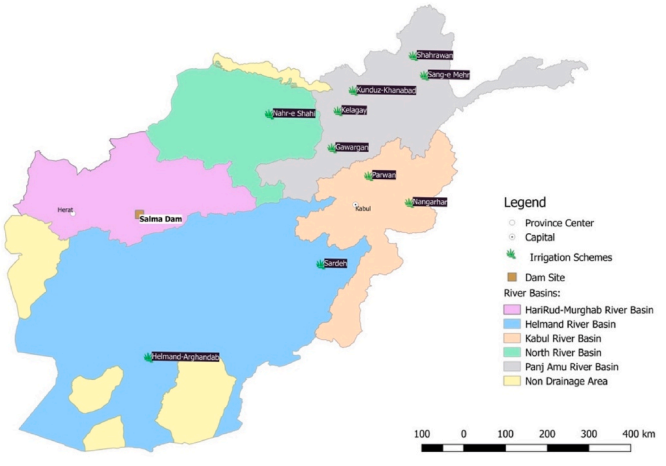

Fig. 2. River basins and major irrigation schemes in Afghanistan. Irrigation scheme data retrieved from Favre and Kamal (2004).

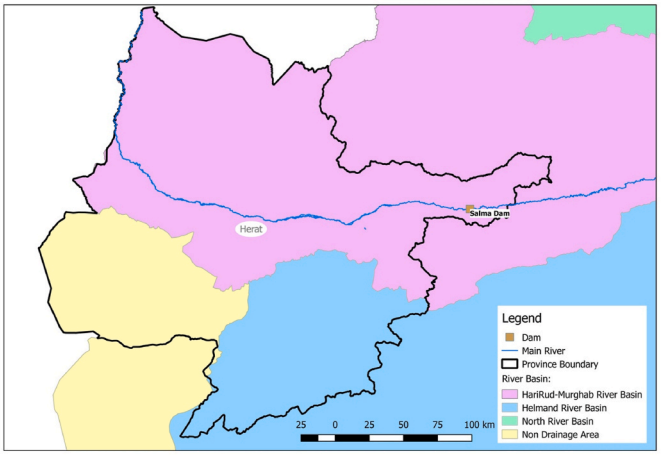

Fig. 3. Map of Herat Province, showing the location of Salma Dam and the Harirud River Basin.

Prime Minister Narendra Modi and Afghan President Ashraf Ghani.

The impacts of large water infrastructures are many and well known (see also Swatuk & Wirkus, 2018). The Afghan Government was well aware of the Salma Dam's far-reaching transnational impacts on Afghanistan's neighbors in the Harirud Basin – notably Iran and Turkmenistan. Nevertheless, with the construction of the dam, the Afghan Government engaged in a "unilateral 'resource capture' strategy" (Thomas & Warner, 2015, p. 601). The anticipated outcomes of water security in Herat Province – especially the anticipated availability of water at the end of summer, which would support better harvests and a diversification of crops – appeared to outweigh other concerns. According to some studies, the dam project would be able to provide 42,000 ha of land with additional water, and 40,000 ha of land would be newly irrigated (Thomas & Warner, 2015).

Increasing water security for farmers in the region was certainly one of the major intentions behind the construction of the dam. Yet, the political drivers behind the project also included strengthening of bilateral partnerships with India as expressed by Abdullah Abdullah, Head of Unity Government, in June 2016 (Afghantelex, 2016). The project is "a positive and effective step towards growth, development and progress" for Afghanistan, and:

"The completion of the Salma Dam construction is an unprecedented and unique step in the development of Afghanistan. Moreover, it is a clear indication of the friendship of Afghanistan and India. Afghanistan and India have historic relationships, and these relationships have always been in line with friendship, good intentions and cooperation. India always contributes to the development of Afghanistan and the welfare of the Afghan people, and Afghans appreciate this cooperation from India." (Author translation from Abdullah in Afghantelex, 2016).

The bilateral agreement between Afghanistan and India over the construction of the dam and direct investment made by India can also be seen in the context of wider geopolitical interests rather than purely in the goal of development (Nagheeby & Warner, 2018).[7] Nevertheless, it is noteworthy that the project is seen as part of the wider peacebuilding effort in Afghanistan. For example, the 2017 report of the UN Secretary-General on the situation in Afghanistan included the 2016 inauguration of the dam by Afghanistan's President and India's Prime Minister among its metrics for regional cooperation, in order to work towards "sustained and effective regional coordination in support of prosperity, peace and stability" (United Nations Security Council, 2017

[5] Personal communication with FAO official.
[6] Personal communication with FAO official.
[7] An analysis of the geopolitical background of the Salma Dam is beyond the scope of this paper. For further information, please see Nagheeby and Warner (2018).

p. 29 of security council citation).

5. Local-level side effects of the Salma Dam project (micro–micro)

The Salma Dam project was intended to provide water security and resilience for farmers in the surrounding region. However, as investigation of the LLSEs suggests, locals downstream of the structure experienced a variety of closely interrelated social, economic, political, and ecological effects (see Fig. 4). Interviewee experiences and perspectives suggest they were often water insecure due to improper dam management, which caused changes in flow after construction of the dam.

At that point, state water management of the Salma Dam was focused on generating hydropower, with little effort made to assist local irrigation.[8] Water access was further complicated by the use of the *Taximot Hakobe Ab* by mirabs in Herat. The *Taximot Hakobe Ab* is a manual written in the 15th century by Abdul Rahman Jami, outlining distribution of water through irrigation. It is not publicly available, but maps out the design of irrigation systems, formulas for calculating water flows, and rules regarding the allocation of water within irrigation systems (UNAMA, 2016). However, these rules have not been updated to reflect changes in the landscape. Factors like agricultural land expansion, the impacts of climate change on river flows, etc. have increased pressure on the Harirud's resources (see also Nagheeby et al., 2019). These traditional rules are arguably outdated for the context they are administered in. Thus, water insecurity resulted from water management, outdated traditional regulations, and lack of necessary infrastructure like canals as well as an increasingly wide riverbed spanning 1000 m in certain places. This water insecurity impacted livelihoods in Zinda Jan and contributed to increased social and political tensions in downstream communities over access to water.

Interviewees mentioned how local communities downstream of the dam in Zinda Jan looked forward to improved water security and access after installation of the dam. However, after its completion, many did not receive water when they needed it. The storage and timed release of the water from the dam's reservoir conflicted with downstream communities' traditional use of water. Responses from interviews demonstrated many locals experienced a lack of water during the summer. Some had water one day but not the next. The crops of some villagers upstream of the dam benefited from this, while the livelihoods of others were destroyed on the downstream side. Interviewees remarked on how water was not available when they needed it or how it caused flooding when released. One farmer detailed how wheat and saffron harvests were ruined, as the dam either did not release water when necessary, or inundated the crops when it was not.[9] Some interviewees perceived the dam as having positive effects on their livelihoods, likely due to their location in relation to the structure. One local specifically stated that "the Salma Dam had less impact on Zinda Jan; it had greater impact in the regions near to the dam site."[10]

Some interviewees considered the dam project had a negative impact, and discussed how they would not be able to harvest at all if they did not have access to groundwater from wells.[11] However, other locals confirmed water was released in the summer when they needed it for their crops, and they had frequently benefited from the dam and reservoir.

Even when locals had to dig wells to access groundwater, it is likely not all were able to equitably access this resource. One interviewee mentioned how people with land and financial resources would dig wells; if they were not able to dig their own wells, they would go to neighbors for water.[12] Further, testimony from Mirabs and farmers indicated groundwater levels were falling. A young farmer noted how wells needed to be dug deeper to reach necessary water.[13] A Mirab described how a decade ago an irrigation well was dug to a depth of 27.5 m, with 18 m of water inside the well, and its water could be collected approximately 9.5 m from the surface. The water levels fluctuated naturally, depending on the season. However, at the time of the interview, water was accessible at 13 m from the surface of the well, as opposed to 9.5 m.[14]

Climate change may have further affected water levels. Some note how, since October 2017, high temperatures and low precipitation rates have reduced "snow depths, river flows, water level in dams, water tables and soil moistures" in Afghanistan, thus directly affecting agricultural production (IFRC, 2018, p. 1). In Herat, droughts are noted to affect groundwater levels (Iqbal, 2018). Indeed, a Mirab further discussed how these ecological changes directly affected groundwater levels and exacerbated inequitable water between residents located upstream and downstream of the Harirud river. The water table was higher in the upstream area, and residents there consequently had more regular access than downstream residents to water through wells, in addition to the river water.[14] These circumstances are concerning, as recent research finds lack of groundwater can lead to communal violence. This likelihood is magnified in areas affected by drought, poor state involvement, and inadequate infrastructure (Döring, 2020).

Government initiatives to divert water for communities, likely funded by international assistance, did not improve water allocation and timely distribution. One interviewee discussed the effects of a canal built by the government in his village, which traditionally always had water. Livestock could no longer access water due to the wall height of the canal, and their owners were consequently compelled to dig wells to help them survive.[15] The Afghan Government was largely dependent on foreign aid for its post-conflict development; this aid often mapped on to donor priorities rather than the needs of intended beneficiaries (Goodhand & Sedra, 2010; Rubin, 2006; Suhrke, 2013). This also applied to the water sector.

International donors had varying interests and aims relating to water management policies and projects, with initiatives that were often poorly coordinated or influenced by geopolitics and local security. Donors would also often be reluctant to involve themselves in projects related to transboundary water disputes or in areas considered to be a high security risk (Ahlers et al., 2014). The Salma Dam project arguably represents both. It is a concern for downstream riparians due to reduced water flows (Jain, 2018; Nagheeby et al., 2019). The dam site has also experienced attacks and insecurity (Ahlers et al., 2014). While international funding and projects aligned with donor expectations, they may not have met the needs and expectations of local communities.[16] One FAO official described how UNAMA coordinated reconstruction work, and after 2001, international donors in the form of provincial reconstruction teams continued to rehabilitate irrigation schemes. However, these actors did not consult with the relevant ministry, and their work was often inadequate.[17] Indeed, reporting indicates that water sector

[8] Water management in Afghanistan is complex. After 2002, Integrated Water Resource Management (IWRM) was promoted as an approach to water management, and new legislation overlaid institutional reforms like Water User Associations (WUAs) with the traditional mirab system. On a local level, mirabs play a notable role in negotiating disputes over water. Three mirabs generally manage each canal, with one for the upper, middle, and lower parts. For further information, please see: Thomas and Ahmad (2009), A Historical Perspective on the Mirab System: A Case Study of the Jangharoq Canal, Baghlan; and Thomas, Azizi & Ghafoori (2013) Water rights and conflict resolution processes in Afghanistan: The case of the Sar-i-Pul sub-basin.

[9] Interview: 1_1E.

[10] Interview: 2_14E.

[11] Interview: 2_6E.

[12] Interview: 2_6E.

[13] Interview: 2_11E.

[14] Interview: 2_3E.

[15] Interview: 1_1E.

[16] Personal communication with regional expert.

[17] Personal communication with FAO official.

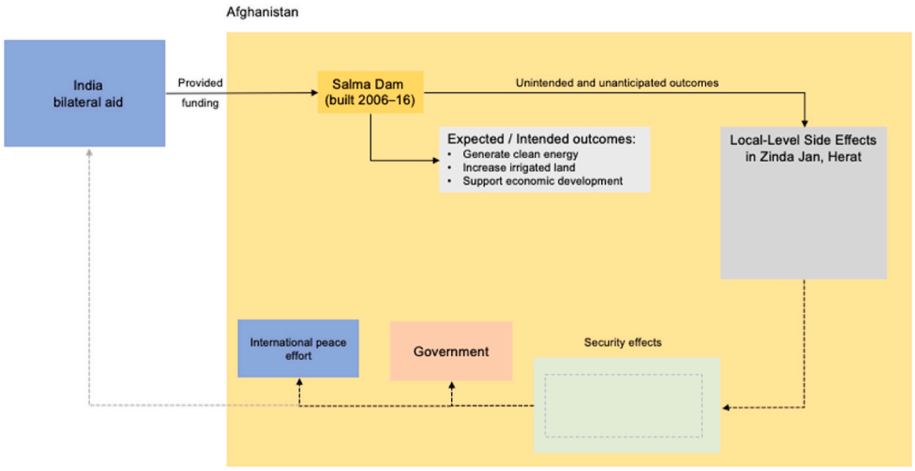

Fig. 4. Analytical approach highlighting implementation and intended outcomes of the Salma Dam project in Zinda Jan district, Herat Province, Afghanistan. Adapted from Swatuk et al. (2018).

Fig. 5. Zinda Jan district south of Harirud River and diversion irrigation channels.

reconstruction efforts in Afghanistan backed by the USA were often ineffective and unsuitable for the context they operated in, despite significant financial investments (SIGAR, 2014).

In Zinda Jan, interviews showed perceptions among locals that internationally backed water infrastructure projects did not ensure equal and sustainable water access. One farmer described how, while his crops benefited from the dam, his friends in different areas could not access water. He stated: "I guess that between Zinda Jan and Salma Dam they built 72 weirs. Every one diverts water in a way. Most of the weirs are constructed [of] concrete. I have friends from Chishti Sharif and Obe who say they are bothered by water. In short, some people get water, and some don't."[18] This highlights the need for the development of necessary infrastructure like canals that could improve water access in downstream communities, as a step to reform old water allocation regulations.[19]

Past attempts at infrastructure projects related to the dam received mixed reviews from locals. Some interviewees described how international actors had implemented irrigation projects with impacts that they felt were negative. One Imam specifically detailed he believed the weirs built by international donors negated water access for his area as well as for places upstream. However, he also discussed how a constructed canal made water allocation easier between the village and local farms.[20] These perspectives and the lack of infrastructure needed for water access experienced in Zinda Jan reflect the point that international aid conforms with donor mandates without necessarily effectively aligning with collective citizen needs.[21]

The broader discord in international assistance was reflected in general local perceptions of international peacebuilders. While some locals commented they benefited from completed international development projects, many interviewees described how the presence of international actors, including UNAMA, ultimately did not help them, and was generally short term instead of being a sustainable investment. Locals believed international actors became involved in Afghanistan for their own gain, and many people stated that the presence of international actors caused social problems and fissures within their communities. For example, some interviewees discussed how international peacebuilders did not provide aid equally throughout the community.[22] This caused resentment among neighbors who did not receive aid, and stress for local council members who were in charge of disbursing it.[23]

Untimely water release from the Salma Dam, lack of infrastructure to carry water from the dam's reservoir to downstream areas, outdated water allocation regulations, and changing environmental conditions arguably contributed to increasing water scarcity in downstream areas such as Zinda Jan and even further downstream in Ghorian district. Interviews showed these perceptions of scarcity were in relation to past use and also to the perceived time of access of other communities. Subsequent grievances among locals in relation to water access when needed contributed to low-level instability and conflict. Indeed, a violent conflict erupted between villages over the installation of a diversion weir, which would diminish the already low access experienced by certain communities by diverting more water to another. Interviewees also expressed varying opinions on IDPs in relation to competition over water use; experiences of water scarcity may have exacerbated the negative sentiments expressed on IDPs (see Fig. 6).

[18] Interview: 2_13E.

[19] Weirs are barriers across the river, which function to ensure a consistent minimum depth of water upstream of the structure. As part of intake structures, they work to influence the potential water access for canals. (Thomas & Ahmad, 2009). The weirs referred to in this research are financed within different development projects, either directly through a donor or through the government.

[20] Interview: 2_8E.

[21] Personal communication with regional expert.

[22] Interviews: 2_15E and 1_4E.

[23] Interview: 2_15E.

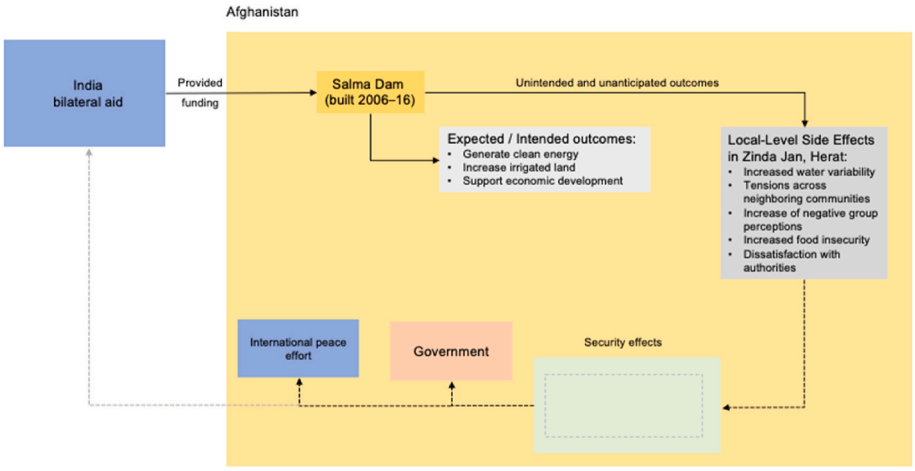

Fig. 6. Analytical approach highlighting LLSEs of the Salma Dam project in Zinda Jan, Herat Province, Afghanistan. Adapted from Swatuk et al. (2018).

Furthermore, while some interviewees unequivocally stated that social and economic conditions vastly improved after 2001, some felt there was more security, peace, and access to water and job opportunities under Taliban rule. This may be an indication of survivorship bias. This should be of concern for the Afghan Government and peacebuilders, not least because decreases in livelihoods and reduced income opportunities for farmers have, in other cases, been linked to increased crime and can be a fertile ground for insurgency recruitment (Krampe & Nordqvist, 2018; Axbard, 2016; van Baalen & Mobjörk, 2018). Issues of experienced water scarcity and related insecurity in Zinda Jan were not felt in isolation from the broader conflict context. Interviewees generally considered Zinda Jan to be more secure than Afghanistan in its entirety. However, depending on the age of the interviewees, they could either not remember a time when there was peace in Afghanistan or remembered peace in the country prior to the Taliban.

6. State-level effects (micro–macro)

As discussed in the previous section, local downstream communities experienced temporally and geographically disparate levels of water access. The mitigation of these effects was challenged by the impacts of the conflict, especially on local water management and conflict resolution mechanisms. Local perspectives of the state and international peacebuilders further hindered the potential of successful peacebuilding. This section discusses how the conflict context contributes to perceptions of resource scarcity experienced in Zinda Jan, and then how this scarcity compounds with new and existing grievances. Grievances and related low-level violence can notably impact state security and the broader peacebuilding processes (World Bank & United Nations, 2018).

6.1. *Perceptions of contextual resource scarcity*

Internationally influenced water management reforms and weak governance in post-conflict Afghanistan arguably further affected resource scarcity experienced in downstream communities. Foreign donors backed water sector management reforms based on the internationally promoted principle of integrated water resource management (IWRM) (Ahlers et al., 2014). The principles of IWRM intended to increase democratic governance of water management by integrating locals into decision-making processes, e.g. through water-user associations (WUAs) that are part of sub-basin and basin councils, which serve as advisory bodies to the decision-making of state actors (Wegerich, 2009). However, while these reforms nominally promoted alignment with traditional Mirab water management systems, it was unclear as to how they would actively do so in practice (Ahlers et al., 2014; Thomas & Ahmad, 2009; Wegerich, 2009). This is likely problematic for local communities, as coexisting regulations may "hamper existing informal conflict resolution or enable corrupt local politicians to make ownership rules more favorable to themselves" (Döring, 2020, p. 4; see also; Benjaminsen & Lund, 2002; Turner et al., 2012).

Concerns were raised about the low water level in the Salma Dam reservoir and distribution of water among eight districts downstream of Dam (Jahanmal, 2016). Therefore, in December 2016, a temporary commission (called the commission for allocation and equitable distribution of Hari-Rud's water) was established, with the initial aim of equitable allocation of water and paving the way for establishing a sub-basin council (Osmani, 2016). As part of the 2009 Water Law, sub-river basin councils and river basin councils are the legal base for inclusion of Water User Associations (WUAs) and Irrigation Associations (IAs) as consulting bodies for decision making (Ministry of Justice, 2009).

There is an ongoing discussion in which the commission is struggling with decision making about water allocation. Indeed, most interviewees were not aware of sub-river basin councils. They believed the commission was highly ineffectual at providing water and at settling disputes about resource allocation. Most interviewees recognized Mirabs as the actors responsible for water management at the local level, and saw the government as being largely absent, corroborating the inefficacy of internationally backed water sector reforms.

A general consensus across all interviews was that the best way to manage water was for the government to work with local people. Research in the northern Kunduz River Basin indicated how the post-conflict setting led to Mirabs capitalizing on weak and dysfunctional local government structures and controlling downstream water access through bribes (Thomas & Ahmad, 2009). Zinda Jan residents experienced similar problems with Mirabs in their community and became frustrated due to inadequate representation in decision-making processes and lack of transparency in water allocation. These issues contributed to a desire for increased government involvement in water management that would actively incorporate local needs and perspectives. This, in turn, would likely mitigate the potential of violence around water scarcity (see Döring, 2020).

While interviewee perspectives on the post-conflict government were mixed, many people thought it worked in its own interest. [24] One interviewee specifically stated that "The government is not our representative. It is good with foreigners; it took their money for its own benefit."[25] Another interviewee remarked on how decisions surrounding water allocation were politically motivated:

[24] Interviews: 1_1E, 1_2E, 1_4E, 2_13E, and 2_11E.
[25] Interview: 1_4E.

> "Look, water management is turned to politics, because if water is managed essentially, then there will be problems for our neighbors [countries]. You know, the government is not united in making decisions for the people of our country. You know, in the government, there are people whose decisions relate to the interests of neighboring countries, that's why water is not properly managed to prevent compromising the interests of neighboring countries. This government does not consider much of its own interests and considers its political interests even more."[26]

However, the desire for government involvement in water management as demonstrated by interviews indicates locals were not inherently against the state and its involvement in large-scale water projects, provided this involvement incorporated their needs and perspectives and ensured necessary access to resources (see also World Bank & United Nations, 2018).

6.2. From resource scarcity to local grievances and increased insecurity

There is indication that in Zinda Jan, communities' perceived water scarcity appears to have contributed to the strengthening of inter-group grievances and insecurity on a local scale (see Fig. 7). These grievances have a direct impact on the potential of small-scale violence (see also Azarbaijani-Moghaddam et al., 2008). Perspectives on the Shakiban village from other communities in Zinda Jan indicate how resource scarcity and perception of state involvement in inequitable water allocation may lead to the construction and exacerbation of group identity differences, as well as to related low-level violence as suggested by previous research (Stewart, 2008; Østby et al., 2011). Friction among groups based on perceived identity differences and the related possibilities of violence surrounding competition for water access is further observable within perspectives on IDP groups in interviews from Zinda Jan locals (see Stewart, 2008). The economic dependency on successful agriculture within Zinda Jan likely further exacerbates the potential of inter-group conflicts surrounding water scarcity and access (see Magnus Theisen, 2008). Negative perspectives of state actors, as well as a generally negative outlook on the legitimacy of foreign peacebuilders, indicate compounding challenges to ensuring peace and stability in the area.

The scarcity of resources in Zinda Jan led to collective grievances and perceptions of increasingly diminished access due to competition from neighboring groups and IDPs. Neighboring communities' experiences of water scarcity and fear of increasingly limited resource access have contributed to inter-group grievances and subsequent low-level violence (Fjelde & von Uexkhull, 2012). Local livelihoods throughout Herat Province are dependent on access to natural resources, and economic activity in Zinda Jan and surrounding areas is no exception (NSIA Afghanistan, 2018). All villages in the Zinda Jan district depended on water from the Harirud river controlled by the Salma Dam during the summer.

Prior to the inauguration of the Salma dam, all communities had adequate access to water from the Hari Rud. However, after the dam was built, the Shakiban's water supply fell short. A conflict broke out in the Zinda Jan district between communities including Qala-e-Naw and other villages downstream and Shakiban village over Shakiban's attempt to build a new diversion weir alongside the position of one already established by communities of Qala-e-Naw and other villages downstream. Potential changes or new constructions in water infrastructure are traditionally agreed upon after consultations with relevant water users. One mirab described that when the downstream villages built their weir six years prior, the Shakiban did not participate, and remained silent about it for years.[27] When the Shakiban asked to build alongside the original weir in the past year, the communities of Qala-e-Naw and other villages downstream refused to share the position of their original weir, and local government officials negotiated for Shakiban to build the weir further downstream. However, this agreement fell through when close to 600 people from Shakiban arrived, armed, to open the canal at its intake. A fight broke out that the district governor, who was understood by downstream residents to support Shakiban, failed to control. Over 10 individuals were injured, with one Mirab losing an eye.[28] Local news subsequently reported that 32 individuals were hurt in the violence, as registered in the district health clinic (Ariana Herat, 2018). Downstream locals subsequently pushed for dismissal of the governor who favored Shakiban, and succeeded.[29]

Communities experiencing resource scarcity and related inequitable access among groups due to state involvement have potential to develop and strengthen perceived political and economic inequalities and related grievances and violence (Homer-Dixon, 1999; Homer-Dixon & Blitt, 1998; Stewart, 2008; Østby et al., 2011). This also applies to Zinda Jan district. Furthermore, the perspectives of interviewed farmers in Shakiban communities suggest economic and political inequalities felt by residents of Zinda Jan about resource access in this context may contribute to group organization around identity based on locality. One Mirab stated that problems with the Shakiban were all due to lack of water, and "if there is water, Shakiban is also part of Zinda Jan, why should we fight with each other?"[30] Another seemed to discursively differentiate the Shakiban people from those in Zinda Jan, and understood the district governor, who supported Shakiban, to be at fault for starting and then failing to resolve the issue.[31] The communities of Zinda Jan and Shakiban are diverse, and these interviews suggested identity differences were constructed around economic grievances in this circumstance. These perspectives align with the understanding of Cederman et al. (2013, p. 37) that "articulation of grievances may help crystallize identity."

Interviewee perspectives further demonstrated how resource scarcity and governance may affect tensions with IDPs, thus potentially further undermining prospects for sustainable local peace. IDP communities settled downstream of the Zinda Jan canal, and have purchased farmland as well as utilize groundwater that local communities depend on in times of water scarcity. This resource use contributed to intercommunal tensions. Indeed, the qualitatively negative relationship among group identity, resource scarcity, and potential insecurity is further observable in local perspectives on IDPs. While group identity may be organized around various markers, different ethnic and cultural identities are often considered to be a basis for communal identity, which groups may mobilize around in relation to experienced horizontal inequalities (Brosché & Elversson, 2012; Stewart, 2000, 2005, 2008). In Zinda Jan, IDPs were "othered" due to perceived cultural differences.[32] Locals – especially older generations – generally believed IDPs were threats to local security, and disliked IDPs living near, working with, or marrying into local families. Locals also often perceived IDPs to be in competition for water access, which would lead to problems and potential conflicts due to increased demands.[33] These perspectives align with research suggesting migration into areas without access to resources is a local-scale stressor (especially among communities economically dependent on those resources) that can contribute to conflict (Barnett & Adger, 2007; Reuveny, 2007; Swain, 1996).

However, some interviewees expressed opinions of IDPs that ranged from begrudgingly ambivalent to positive. Some stated they would accept IDPs based on an understanding of sharing an identity on a

[26] Interview: 1_ 1E.
[27] Interview: 1_3E.
[28] Interviews: 1_3E and 1_4E.
[29] Interviews: 1_6E and 1_3E.
[30] Interview: 1_4E.
[31] Interview: 1_3E.
[32] Interview: 2_11E.
[33] Interviews: 1_1E, 1_2E, 1_4E, 1_5E, 2_8 EE, and 1_7E.

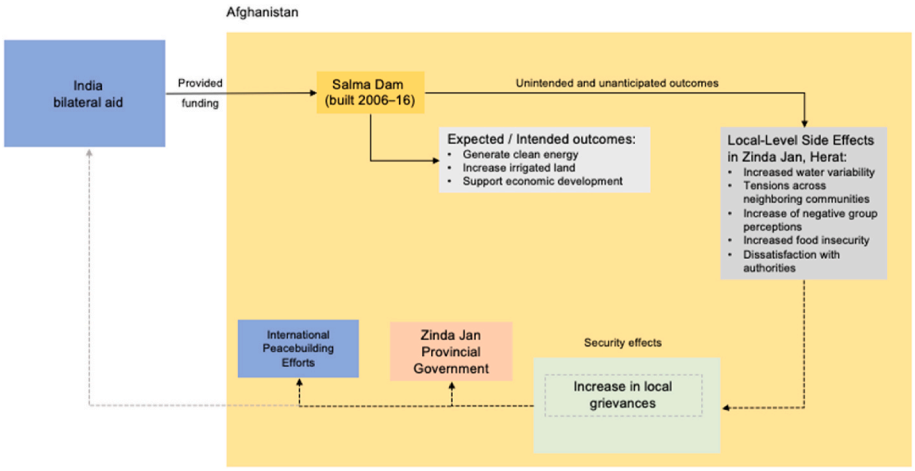

Fig. 7. Analytical approach demonstrating impacts of the Salma Dam project on peacebuilding efforts in Zinda Jan, Herat Province, Afghanistan. Adapted from Swatuk et al. (2018).

national level.[34] One man only recognized a right for IDPs to be in his community due to his acceptance of governmental authority. He stated that while he did not personally accept IDPs, the district governor told him they had a right to live in the village as citizens of Afghanistan.[35] One woman described how she believed IDPs caused problems in her district if they were too culturally different. If they did not bother local communities, she had no issue with them living in her community. She continued on to say that if they were to cause problems over water access, the issues should be resolved legally.[36]

The interviewees' varying perspectives of IDPs in Zinda Jan echo arguments of how perceived threats of competition from external groups over already negligible resources have the potential to contribute to insecurity as well as local constructions of identity-based grievances against newcomers (Brzoska & Fröhlich, 2016; Gleditsch et al., 2007; Reuveny, 2007; Swain, 1996). However, in contrast, the more accepting perspectives indicate how local belief in a collective national identity, and acceptance of the legitimacy of state actors and laws, may mitigate possible contentious interactions between locals and IDPs, thus offering important insight into institutional development in the perceptions of citizens.

The evidence from Zinda Jan presents a contrast to arguments of withdrawal of local communities from states (Scott, 2009), and confirms local populations prefer the state as a provider of security, justice, and services (Krampe, 2016; van der Lijn & De Zwaan, 2019). Local acceptance of IDPs based on belief of a national identity and state authority, grievances against and dismissal of the district governor, and local belief in the importance of government involvement in water management indicate the importance of and community desire for a state. However, local perspectives from interviewees of the motivations of the post-conflict government, as well as international peacebuilders theoretically meant to help rebuild and renegotiate the state–society relationship, were generally negative. These negative opinions were not due to the dam, but were related to the broader ineffective and imposing liberal peacebuilding efforts in Afghanistan (Kalborg, 2014). This suggests how the conflict context and impacts of international actors substantially complicate and affect local legitimization of state and international peacebuilders (Krampe & Ekman, 2020; Themnér & Ohlson, 2014).

While some interviewees viewed the government positively, many believed it worked in its own interest, and often worked with foreigners at the expense of its own people. As others suggested, the staggered international funding and involvement over decades of conflict in Afghanistan also likely influenced a significant distrust of the abilities and motivations of international actors among Zinda Jan locals (Karlborg, 2014; Rubin, 2006). Interviewees commented on how international actors aid only in the short term, and discussed their perceptions of the incentives of international actors as empirically self-interested. One man stated that "foreigners, if they do anything in Afghanistan, if they sacrifice their lives, it is in their own interest."[37] That the state and international peacebuilders are widely perceived as illegitimate, based on their actions in the post-conflict context (Karlborg, 2014), is a compounding challenge for sustainable peacebuilding.

7. Conclusion

This article contributes to an improved understanding of the implications of future climate development projects in conflict-affected states, and their inherent contribution and/or risk to broader peace processes. To provide insight on this question, the research queries how the management of the Salma Dam project in Afghanistan has affected the prospect for peace in downstream local communities. The Salma Dam was chosen as it represents activities addressing mitigation and adaptation. A recently developed analytical approach is used to analyze interrelated social, economic, and political dynamics experienced in downstream communities in the Zinda Jan district after the construction of the Salma Dam, and how these dynamics may affect the prospect for sustainable peace. We find local downstream communities experienced increased water scarcity due to management of water controlled by the dam, lack of necessary infrastructure to carry water from the dam's reservoir to downstream communities, and outdated water allocation regulations. This scarcity was likely further compounded by climate change. Our analysis highlights how these dynamics and subsequent experience of water scarcity can facilitate grievances and low-level violence and insecurity among local communities. The management of the dam – a result of government regulations influenced by international actors – contributed to community conflict as it did not factor in local needs. Of note is that this research reflects perspectives through summer 2018. Later institutional developments positively influenced the management of the dam and release of its water, but these are beyond the scope of this study. These institutional changes demonstrate the need for the type of analysis demonstrated in this paper, as it anticipates key challenges that institutional development can actively prevent. While

[34] Interviews: 2_15E and 2_5E.
[35] Interview: 1_4E.
[36] Interview: 1_2E.
[37] Interview: 2_9E.

climate development projects likely have distributional impacts that may contribute to resentment, the question is how severe these impacts may be, and how they can best be managed. Additionally, this research demonstrates how the conflict-affected context influences local-scale interpretations and responses to the legitimacies of actors meant to ensure stability, thus further challenging peacebuilding on a local scale.

In the context of Afghanistan, it is important to remain aware that the conflict history influenced the state's capability to provide access to water. It also broadly influences local trust and awareness of state and international actors. International involvement, which backed long-term policy reforms and short-term water management projects in Zinda Jan, had a negative impact on resource access in the district.

The case study of Zinda Jan indicates that in the context of liberal peacebuilding (premised on economic development and large-scale structural adjustment), post-conflict water management reforms and climate development projects were unsustainable, and failed to effectively account for the needs and ensure the participation of local groups. Past interventions have been short term, creating temporary opportunities for the benefit of only a few. Sustainable interventions with the ability to create and ensure jobs, especially in areas affected by climate change and that are dependent on agriculture, are of importance (Jawid & Khadjavi, 2019).

The findings of this article stress the need for further research into the security implications of climate development projects in conflict-affected states. In the Zinda Jan setting, the micro dynamics felt after the completion of the Salma Dam saw grievances among groups and state actors rise, and compromised local-scale peace. This knowledge will be a prerequisite to promote inclusive and sustainable management strategies and allow for affected communities to actively work with state actors in all stages of sustainably managing related natural resources to best meet their needs. The use of international agendas conforming with donor priorities aims or techniques for climate change or sustainable development can create intersecting local-scale social, political, economic, and ecological challenges. Such issues can impede sustainable peacebuilding, as demonstrated by the Zinda Jan case study.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.polgeo.2021.102454.

References

Afghantelex. (2016). *Congratulatory message to Abdullah Abdullah on the occasion of the opening of Salma dam* [translation of original title] https://www.afghantelex.com/?p=32825.

Agreement on Provisional Arrangements in Afghanistan Pending the Re-Establishment of Permanent Government Institutions. (2001). *United Nations*. https://ihl-databases.icrc.org/ihl-nat/a24d1cf3344e99934125673e00508142/4ef7a08878a00fe5c12571140032e471/$FILE/BONN%20AGREEMENT.pdf.

Ahlers, R., Brandimarte, L., Kleemans, I., & Sadat, S. H. (2014). Ambitious development on fragile foundations: Criticalities of current large dam construction in Afghanistan. *Geoforum, 54*, 49–58. https://doi.org/10.1016/j.geoforum.2014.03.004

Antwi-Agyei, P., Dougill, A. J., Agyekum, T. P., & Stringer, L. C. (2018). Alignment between nationally determined contributions and the sustainable development goals for West Africa. *Climate Policy, 18*(10), 1296–1312. https://doi.org/10.1080/14693062.2018.1431199

Axbard, S. (2016). Income opportunities and sea piracy in Indonesia: Evidence from satellite data. *American Economic Journal: Applied Economics, 8*(2), 154–194. https://doi.org/10.1257/app.20140404

Ayub, F., Kouvo, S., & Wareham, R. (2009). *Security sector reform in Afghanistan* (pp. 1–17). Initiative for Peacebuilding.

Azarbaijani-Moghaddam, S., Wardak, M., Zaman, I., & Taylor, A. (2008). *Afghan hearts, Afghan minds: Exploring Afghan perceptions of civil-Military relations*. British & Irish Agencies Afghanistan Group (BAAG).

van Baalen, S., & Mobjörk, M. (2018). Climate change and violent conflict in East Africa: Integrating qualitative and quantitative research to probe the mechanisms. *International Studies Review, 20*(4), 547–575. https://doi.org/10.1093/isr/vix043

Barma, N. H. (2006). Brokered democracy-building: Developing democracy through transitional governance in Cambodia, East Timor and Afghanistan. *International Journal on Multicultural Societies, 8*(2), 127–161.

Barnett, J. (2007). Environmental security and peace. *Journal of Human Security, 3*(1), 4–16.

Barnett, J., & Adger, W. N. (2007). Climate change, human security and violent conflict. *Political Geography, 26*(6), 639–655.

Benjaminsen, T. A., & Lund, C. (2002). Formalisation and informalisation of land and water rights in Africa: An introduction. *European Journal of Development Research, 14*(2), 1–10. https://doi.org/10.1080/714000420

Berman, E., Felter, J., Shapiro, J., & Troland, E. (2013). Modest, secure and informed: Successful development in conflict zones. *The American Economic Review: Papers & Proceedings, 103*(3), 512–517. https://doi.org/10.1257/aer.103.3.512

Brosché, J., & Elversson, E. (2012). Communal conflict, civil war, and the state: Complexities, connections, and the case of Sudan. *African Journal on Conflict Resolution, 12*(1), 9–32.

Brzoska, M., & Fröhlich, C. (2016). Climate change, migration and violent conflict: Vulnerabilities, pathways and adaptation strategies. *Migration and Development, 5*(2), 190–210. https://doi.org/10.1080/21632324.2015.1022973

Campbell, S. (2018). *Global governance and local peace: Accountability and performance in international peacebuilding*. Cambridge University Press.

Cederman, L.-E., Buhaug, H., & Gleditsch, K. S. (2013). *Inequality, grievances, and civil war*. Cambridge University Press.

Dabelko, Geoffrey, et al. (2013) (2nd), *4. Backdraft: The conflict potential of climate change adaptation and mitigation*. Washington DC: Woodrow Wilson International Center for Scholars.

de Coning, C. (2018). Adaptive peacebuilding. *International Affairs, 94*(2), 301–317. https://doi.org/10.1093/ia/iix251

Döring, S. (2020). Come rain, or come wells: How access to groundwater affects communal violence. *Political Geography, 76*, Article 102073. https://doi.org/10.1016/j.polgeo.2019.102073

D'Souza, S.M. India's Aid to Afghanistan: Challenges and Prospects, Strategic Analysis, 31(5), 833-842. https://doi.org/10.1080/09700160701662328.

Egnell, R. (2010). Winning 'Hearts and minds'? A critical analysis of counter-insurgency operations in Afghanistan. *Civil Wars, 12*(3), 282–303. https://doi.org/10.1080/13698249.2010.509562

Esser, D. (2013). The political economy of post-invasion Kabul, Afghanistan: Urban restructuring beyond the north–south divide. *Urban Studies, 50*(15), 3084–3098. https://doi.org/10.1177/0042098013487773

FAO. (2019). Communities affected by drought in Afghanistan are struggling with hunger. *Food and Agriculture Organization*. http://www.fao.org/resilience/news-events/detail/en/c/1187153/.

Favre, R., & Kamal, G. M. (2004). Watershed Atlas of Afghanistan. *Food and Agriculture Organization*.

Fjelde, H., & von Uexkhull, N. (2012). Climate triggers: Rainfall anomalies, vulnerabilities and communal conflict in Sub-Saharan Africa. *Political Geography, 31*, 444–453.

Fluri, J. (2009). "Foreign passports only": Geographies of (post)conflict work in Kabul, Afghanistan. *Annals of the Association of American Geographers, 99*(5), 986–994. https://doi.org/10.1080/00045600903253353

Gibbs, D. (1986). The peasant as counter-revolutionary: The rural origins of the Afghan insurgency. *Studies in Comparative International Development, 21*(1), 36–59. https://doi.org/10.1007/BF02717362

Gleditsch, N. P., Nordås, R., & Salehyan, I. (2007). *Climate Change and conflict: The migration link (working paper Series, pp. 1–12*. International Peace Academy.

Goodhand, J., & Sedra, M. (2010). Who owns the peace? Aid, reconstruction, and peacebuilding in Afghanistan. *Disasters, 34*, S78–S102. https://doi.org/10.1111/j.1467-7717.2009.01100.x

Gurr, T. R. (1970). *Why men Rebel*. Princeton University Press.

Hedström, P., & Swedberg, R. (1998). *Social mechanisms: An analytical approach to social theory*. Cambridge University Press.

Herat, A. (2018, March, 18). *Dozens of residents of Zinda Jan district of Herat protest after a dispute over water distribution (Video)*. Youtube https://www.youtube.com/watch?v=OK7j7dTmzPA&ab_channel=ArianaHerat.

Homer-Dixon, T. F. (1999). *Environment, scarcity, and violence*. Princeton University Press.

Homer-Dixon, T. F., & Blitt, J. (1998). *Ecoviolence: Links among environment, population and security*. Rowman & Littlefield.

IFRC. (2018). *Information Bulletin, Afghanistan: Drought. International Federation of the red Cross and red Crescent (IFRC)*. https://www.ifrc.org/docs/Appeals/18/IBAFdr160518.pdf.

International Help Institute. (2018). *Research on market professions in the market of Herat Province*. International Help Institute. http://help-org.af/farsi/wp-content/uploads/2018/07/Research-on-Marketable-Vocations-in-Herat_-Dari-1396.pdf.

Iqbal, M., Donjadee, S., Kwanyuen, B., & Shi-yin, L. (2018). Farmers' perceptions of and adaptations to drought in Herat Province, Afghanistan. *Journal of Mountain Science, 15*(8). https://doi.org/10.1007/s11629-017-4750-z

Islamic Republic of Afghanistan. (2015). *Intended Nationally determined contribution submission to the United Nations framework convention on climate change*. https

://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Afghanistan%20First/INDC_AFG_20150927_FINAL.pdf.
Islamic Republic of Afghanistan. (2018). *Herat. Independent directorate of local governance*. https://idlg.gov.af/herat/.
Islamic Republic of Afghanistan. (2019). *Initial biennial update report under the United Nations framework convention on climate change (UNFCCC)*. Kabul: National Environmental Protection Agency. https://www4.unfccc.int/sites/SubmissionsStaging/NationalReports/Documents/6317285_Afghanistan-BUR1-1-546071_Afghanistan-BUR1-1-BUR%20Report_Final.pdf.
Islamic Republic of Afghanistan. (2020). *Estimated Population of Afghanistan 2020-2021*. NSIA. https://www.nsia.gov.af:8080/wp-content/uploads/2020/06/%D8%A8%D8%B1%D8%A2%D9%88%D8%B1%D8%AF-%D9%86%D9%81%D9%88%D8%B3-%DA%A9%D8%B4%D9%88%D8%B1-%DB%B1%DB%B3%DB%B9%DB%B9-%D9%86%D8%B3%D8%AE%DB%80-%D8%A7%D9%88%D9%84.pdf.
Jahanmal, Z. (2016). *Water shortage in Salma dam has affected agricultural lands in Herat*. ToloNews. https://tolonews.com/fa/business/%DA%A9%D8%A7%D9%87%D8%B4-%D8%A2%D8%A8-%D8%AF%D8%B1-%D8%A8%D9%86%D8%AF-%D8%B3%D9%84%D9%85%D8%A7-%D8%B2%D9%85%DB%8C%D9%86%E2%80%8E%D9%87%D8%A7%DB%8C-%D8%B2%D8%B1%D8%A7%D8%B9%D8%AA%DB%8C-%D8%AF%D8%B1-%D9%87%D8%B1%D8%A7%D8%AA-%D8%B1%D8%A7-%D9%85%D8%AA%D8%A3%D8%AB%DB%8C%D8%B1-%D8%B3%D8%A7%D8%AE%D8%AA%D9%87-%D8%A7%D8%B3%D8%AA.
Jain, R. (2018). In *Parched Afghanistan, drought Sharpens water dispute with Iran*. Reuters. https://www.reuters.com/article/us-afghanistan-iran-water/in-parched-afghanistan-drought-sharpens-water-dispute-with-iran-idUSKBN1K702H.
Jawid, A., & Khadjavi, M. (2019). Adaptation to climate change in Afghanistan: Evidence on the impact of external interventions. *Economic Analysis and Policy, 64*, 64–82. https://doi.org/10.1016/j.eap.2019.07.010
Jernnäs, M., Linnér, B. 2019 A discursive cartography of nationally determined contributions to the Paris climate agreement. Global Environmental Change, 55, 73-83. https://doi.org/10.1016/j.gloenvcha.2019.01.006.
Karlborg, L. (2014). Enforced hospitality: Local perceptions of the legitimacy of international forces in Afghanistan. *Civil Wars, 16*(4), 425–448. https://doi.org/10.1080/13698249.2014.984383
van der Lijn, J., & De Zwaan, N. (2019). *Security and justice in the CAR and the DR: International aims, local expectations*. Stockholm International Peace Research Institute.
Krampe, Florian (2016). Empowering peace: Service provision and state legitimacy in Nepal's peace-building process. *Conflict, Security & Development, 16*(1), 53–73.
Krampe, Florian, & Eklöw, Karolina (2019). *Climate-related security risks and peacebuilding in Somalia. Policy Paper No. 53*. Stockholm International Peace Research Institute.
Krampe, Florian, & Ekman, Lisa (2020). Post-war Legitimacy: A Framework of Relational Agency. *Legitimate Political Authority and Peacebuilding: Local, State, International*. Edinburgh University Press.
Krampe, Florian, & Nordqvist, Pernilla (2018). *Climate change and violent conflict: Sparse evidence from South Asia and South East Asia. SIPRI Insights in Peace and Security*. Stockholm International Peace Research Institute.
Lyall, J., Zhou, Y., & Imai, K. (2020). Can economic assistance shape combatant support in wartime? Experimental evidence from Afghanistan. *American Political Science, 114*(1), 126–143.
Mac Ginty, R. (2010). Hybrid peace: The interaction between top-down and bottom-up peace. *Security Dialogue, 41*(4), 391–412. https://doi.org/10.1177/0967010610374312
Mac Ginty, R., & Richmond, O. P. (2013). The local turn in peace building: A critical agenda for peace. *Third World Quarterly, 34*(5), 763–783. https://doi.org/10.1080/01436597.2013.800750
Magnus Theisen, O. (2008). Blood and soil? Resource scarcity and internal armed conflict revisited. *Journal of Peace Research, 45*(6), 801–818. https://doi.org/10.1177/0022343308096157
Metz, B., & Kok, M. (2008). Integrating development and climate policies. *Climate Policy, 8*(2), 99–102. https://doi.org/10.3763/cpol.2008.0523
Migdal, J. S. (2001). *State in society*. Cambridge University Press.
Ministry of Justice. (2009). *Water law. Islamic Republic of Afghanistan*. http://extwprlegs1.fao.org/docs/pdf/afg172372.pdf.
Mitra, D. (2016). *The Amazing Indian story behind Herat's Salma dam*. The Wire. https://thewire.in/diplomacy/the-story-behind-herats-salma-dam.
Moran, A., Busby, J., Raleigh, C., Smith, T., Kishi, R., Krishnan, N., & Wight, C. (2018). *Intersection of global fragility and climate risks*. USAID. https://pdf.usaid.gov/pdf_docs/PA00TBFH.pdf.
Mullen, R., & Arora, K. (2016). *INDIAN development cooperation with Afghanistan and the 'AFGHAN-India friendship dam'*. Centre for Policy Research. https://cprindia.org/sites/default/files/policy-briefs/Indian%20Development%20Cooperation%20with%20Afghanistan%20and%20the%20%e2%80%98Afghan-India%20Friendship%20Dam%e2%80%99_0.pdf.
Nagheeby, M., Piri, D. M., & Faure, M. (2019). The legitimacy of dam development in international watercourses: A case study of the Harirud river basin. *Transnational Environmental Law, 8*(2), 247–278. https://doi.org/10.1017/S2047102519000128
Nagheeby, M., & Warner, J. (2018). The geopolitical overlay of the hydropolitics of the Harirud River Basin. *International Environmental Agreements, 18*, 839–860. https://doi.org/10.1007/s10784-018-9418-9
National Environmental Protection Agency, Afghanistan. (2009). *National capacity needs Self-Assessment for Global environmental management (NCSA) and national adaptation Programme of action for climate change (NAPA)* (NEPA Afghanistan).
Newman, E. (2009). Liberal peacebuilding debates. In E. Newman, R. Paris, & O. P. Richmond (Eds.), *New perspectives on liberal peacebuilding*. United Nations University Press.
NSIA Afghanistan. (2018). *Afghanistan provincial Profile 2018. Islamic Republic of Afghanistan national Statistics and information authority (NSIA Afghanistan)*.
Osmani, A. (2016). *Supervision meeting on fair distribution of Hari-Rud sea water*. Afghan paper. http://afghanpaper.com/nbody.php?id=126456.
Østby, G., Nordås, R., & Rød, J. K. (2009). Regional inequalities and civil conflict in Sub-Saharan African countries. *International Studies Quarterly, 53*(2), 301–324.
Østby, G., Urdal, H., Tadjoeddin, M. Z., Murshed, S. M., & Strand, H. (2011). Population pressure, horizontal inequality and political violence: A disaggregated study of Indonesian provinces, 1990–2003. *Journal of Development Studies, 47*(3), 377–398. https://doi.org/10.1080/00220388.2010.506911
Ozdemir, E. (2019). Deteriorating proximity between liberal peacebuilding and counterinsurgency: Warlordism and corruption in Afghanistan. *Intervention, 21*(2), 188–218. https://doi.org/10.1080/1369801X.2018.1487321
Paris, R. (2004). *At War's end building peace after civil conflict*. Cambridge University Press.
Pugh, M. (2006). Post-war economies and the New York dissensus. *Conflict, Security and Development, 6*(3), 269–289. https://doi.org/10.1080/14678800600933464
Remling, Elise, & Causevic, Amar (2021), *SIPRI Insights on Peace and Security. Climate-related Security Risks in the 2020 updated Nationally determined contributions*. Stockholm International Peace Research Institute.
Reuveny, R. (2007). Climate change-induced migration and violent conflict. *Political Geography, 26*(6), 656–673. https://doi.org/10.1016/j.polgeo.2007.05.001
Richmond, O., & Mac Ginty, R. (Eds.). (2020). *Local legitimacy and international peacebuilding*. Edinburgh University Press.
Rubin, B. R. (2006). Peace building and state-building in Afghanistan: Constructing sovereignty for whose security? *Third World Quarterly, 27*(1), 175–185. https://doi.org/10.1080/01436590500370038
Saikal, A. (2006). Afghanistan's transition: ISAF's stabilisation role? *Third World Quarterly, 27*(3), 525–534. https://doi.org/10.1080/01436590600587812
Saikal, A. (2012). The UN and Afghanistan: Contentions in democratization and statebuilding. *International Peacekeeping, 19*(2), 217–234. https://doi.org/10.1080/13533312.2012.665701
Scott, R. B. (1980). *Tribal and ethnic groups in the Helmand valley*. Afghanistan Council, The Asia Society.
Scott, J. (2009). *The Art of not being governed*. Yale University Press.
SIGAR. (2014). *Afghanistan's water sector: USAID's strategy Needs to Be Updated to ensure appropriate Oversight and Accountability (Audit report SIGAR 14-52; Afghanistan's water sector)*. Special Inspector General for Afghanistan Reconstruction (SIGAR).
Stewart, F. (2000). Crisis prevention: Tackling horizontal inequalities. *Oxford Development Studies, 28*(3), 245–262. https://doi.org/10.1080/713688319
Stewart, F. (2005). *Policies towards horizontal Inequalities in post-conflict reconstruction (working paper* (pp. 1–42). Oxford: Centre for Research on Inequality, Human Security and Ethnicity.
Stewart, F. (Ed.). (2008). *Horizontal inequalities and conflict: Understanding group violence in Multiethnic societies*. Palgrave Macmillan.
Suhrke, A. (2007). Reconstruction as modernization: The post-conflict project in Afghanistan. *Third World Quarterly, 28*(7), 1291–1398. https://doi.org/10.1080/01436590701547053
Suhrke, A. (2008). Democratizing a dependent state: The case of Afghanistan. *Democratization, 15*(3), 630–648. https://doi.org/10.1080/13510340801972387
Suhrke, A. (2013). Statebuilding in Afghanistan: A contradictory engagement. *Central Asian Survey, 32*(3), 271–286. https://doi.org/10.1080/02634937.2013.834715
Suhrke, A., Harpviken, K. B., & Strand, A. (2002). After Bonn: Conflictual peace building. *Third World Quarterly, 23*(5), 875–891. https://doi.org/10.1080/0143659022000028602
Swain, A. (1996). Environmental migration and conflict dynamics: Focus on developing regions. *Third World Quarterly, 17*(5), 959–974. https://doi.org/10.1080/01436599615209
Swatuk, L. A., Thomas, B. K., Wirkus, L., Krampe, F., & Batista da Silva, L. P. (2020). The 'boomerang effect': Insights for improved climate action. *Climate & Development*, 1–7. https://doi.org/10.1080/17565529.2020.1723470
Swatuk, L. A., & Wirkus, L. (2018). *Water, climate change and the Boomerang effect: Unintentional consequences for resource insecurity*. Routledge.
Swatuk, L. A., Wirkus, L., Krampe, F., Thomas, B. K., & da Silva, L. P. B. (2018). The boomerang effect: Overview and implications for climate governance. In *Water, climate change and the Boomerang effect* (1st ed., pp. 1–16). Routledge.
Themnér, A., & Ohlson, T. (2014). Legitimate peace in post-civil war states: Towards attaining the unattainable. *Conflict, Security and Development, 14*(1), 61–87. https://doi.org/10.1080/14678802.2014.881088
Thomas, V., & Ahmad, M. (2009). *A historical perspective on the mirab system: A case study of the Jangharoq canal. Baghlan*. Afghanistan Research and Evaluation Unit.
Thomas, V., & Warner, J. (2015). Hydropolitics in the Harirud/Tejen River Basin: Afghanistan as hydro-hegemon? *Water International, 40*(4), 593–613. https://doi.org/10.1080/02508060.2015.1059164
Thomas, Vincent, Ahmad Azizi, Mujib, & Ghafoori, Ihsanullah (2013). *Water rights and conflict resolution processes in Afghanistan: The case of the Sar-i-Pul sub-basin*. Afghanistan Research and Evaluation Unit.
ToloNews. (2016). *Salma dam to transform Herat's economy, agriculture sector*. https://tolonews.com/salma-dam-project/25638-salma-dam-to-transform-herats-economy-agriculture-sector-.
Turner, M. D., Ayantunde, A. A., Patterson, K. P., & Patterson, E. D. (2012). Conflict management, decentralization and agropastoralism in dryland West Africa. *World Development, 40*(4), 745–757. https://doi.org/10.1016/j.worlddev.2011.09.017
UNAMA Rule of Law Unit. (2016). *Water rights: An Assessment of Afghanistan's legal framework governing water for agriculture*. United Nations Assistance Mission in

Afghanistan (UNAMA) https://unama.unmissions.org/sites/default/files/2016_19_10_water_rights_final_v2.pdf.
UNEP. (2015). *Afghanistan's second National communication (SNC) under the UNFCCC (2015-2016)*. United Nations Environment Programme (UNEP). https://wedocs.unep.org/bitstream/handle/20.500.11822/22969/Factsheet_SNC_english.pdf?sequence=1&isAllowed=y.
UNFCCC. (2018). *How hydropower can help climate action*. United Nations. https://unfccc.int/news/how-hydropower-can-help-climate-action.
United Nations. (2002). *The situation in Afghanistan and its implications for international peace and security*. Report of the Secretary-General. A/56/875–S/2002/278. United Nations.
United Nations Security Council. (2017). *The Situation in Afghanistan and its implications for international peace and security. Report of the Secretary-General*. United Nations. A/71/826–S/2017/189. United Nations https://unama.unmissions.org/sites/default/files/n1705111.pdf.
Wegerich, K. (2009). *Water strategy meets local reality*. Afghanistan Research and Evaluation Unit.
World Bank. (2020). *Afghanistan. World bank climate change knowledge portal*. https://climateknowledgeportal.worldbank.org/country/afghanistan/climate-data-historical.
World Bank, & United Nations. (2018). *Pathways for peace: Inclusive approaches to preventing violent conflict*. World Bank.